



Sega Dreamcast Controller Refurbishment

If your retro consoles and controllers are beginning to look a little, or a lot, seasoned from years of use or storage and you're interested in restoring their original look then this is the guide for you.

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INTRODUCTION

With a little work and elbow grease you can restore the original look, feel and finish to your retro controllers and consoles. In this guide I'll walk you through my personal process on how to refurbish your Sega Dreamcast controllers inside and out.



TOOLS:

- [#1 Phillips Head Screwdriver](#) (1)
 - [Toothbrush](#) (1)
 - [High Content Rubbing Alcohol](#) (1)
 - [Q-Tips](#) (1)
 - [Cooking Pan](#) (1)
 - [Saran Wrap](#) (1)
 - [Salon Care 40 Volume Creme](#) (1)
 - [UV Black Light](#) (1)
 - [Disposable gloves](#) (1)
 - [Paper Towels](#) (1)
 - [iFixit Opening Tools](#) (1)
 - [Aluminum Foil](#) (1)
 - [Novus Plastic Polish #1](#) (1)
 - [Novus Plastic Polish #2](#) (1)
 - [Microfiber Cleaning Cloths](#) (1)
 - [Bleach Wipes](#) (1)
 - [Electronics Cleaner](#) (1)
 - [Antibacterial Soap](#) (1)
 - [Dish Soap](#) (1)
 - [ESD Bracelet](#) (1)
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Step 1 — Cleaning the Controller Cable



- i** One disadvantage of retro console controllers is the cable. Tethered at a specific distance from the console, most controller cables wind up on the floor which makes them prone to being stepped on. Floors, from a medical perspective, are assumed to always be dirty even immediately after being cleaned. There's a reason for this...
- i** Imagine all the things you step in, while wearing your shoes, throughout an average day. Need I remind you of the dreaded public restroom? The bottoms of your shoes are among some of the dirtiest things around. Now imagine you or your kids stepping on your cords on a regular basis. Even if it looks clean a bleach wipe will quickly prove you wrong.
- This is the easiest part of the refurbishing process. Simply put on some gloves, grab a bleach wipe and start rubbing down your controller cable. I recommend going both directions down the cord. By that I mean start at the base of the controller cord, down to the console port and then reverse the direction. I've found that simply going from top to
- bottom isn't sufficient enough for some of the more stubborn dirt that's near the console port. Reversing the direction seems to be the easy fix for removing that dirt at the end of the cable. Repeat this process, using as many wipes as necessary, to remove this dirt/bacteria. You'll feel an instant difference when it's dry and it'll almost feel
- like new. When you're satisfied with the cleanliness of the cord take your electronics cleaner and spray inside the console port to clean the inside and ensure a clean and solid connection when you plug in your controller. This step is now complete. It's time to go sanitize everything else.
- i** I wear gloves through most of this process in order to prevent touching the chemicals and to prevent my own skin oils from affecting the end result of the plastic finish. Wearing gloves is purely optional but it is recommended. Gloves are not necessary during the cleaning process when only using soap but if you're doing several controllers your
- i** hands won't dry out from all the washing and your skin will thank you.

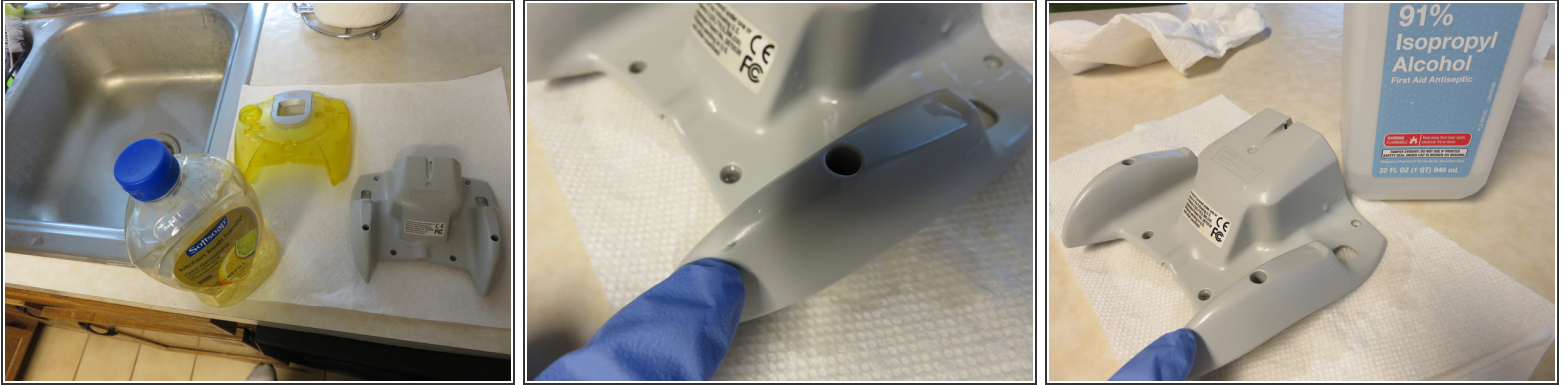
- i** This is one of the cleaner controller cords I've cleaned. There's many variables that will affect how dirty your cord is so results will vary here. Used controllers are usually much dirtier than this one.

Step 2 — Disassemble the Controller



- i** There are a total of 8 screws that will need to be removed for this project. 6 external and 2 internal.
- Use your #1 screwdriver to remove the 6 external screws and remove the back plate of the controller.
 - Remove the 2 internal screws and remove the controller board.
 - Remove the 3 rubber pads and all the buttons from the front controller cover and controller board and set them off to the side for now.
- i** I put the 8 screws in a container with enough rubbing alcohol to submerge them. This removes years of dirt and they come out looking like new. This is completely optional.

Step 3 — Prep the Back Controller Shell for Restaining



- i This step is optional but recommended. If your cleaning a white shell controller follow these steps for the front shell also.
- Using whatever sink suits you best use hot/warm water and antibacterial soap and clean the back cover by hand. Be sure to also clean the inside of the cover to remove any dirt/dust that's been sitting in there.
- i If preserving the sticker is important to you then take care and be gentle when washing the sticker on the back cover. Use gentle pressure with your fingers in this area.
- i Sometimes there are "trouble spots" or dirt patches on the cover and can remain after you wash it. Take note of these spots and pay extra attention to them when washing. If they remain, even after a vigorous cleaning use a Qtip and rubbing alcohol to try and remove the spot. If a Qtip doesn't work simply use it to wet the trouble spot and use a
- i plastic prying tool to scrape it off. Sometimes they require significant force to remove and the plastic tool doesn't scratch the cover. Nail polish remover can be used here but I don't recommend it.

Step 4 — Restain/Deyellow the Back Shell



- Grab your Saran Wrap and rip off a decent size piece. Large enough to completely wrap the back shell and lay it flat on your work surface.
 - Open the bottle of Salon Care 40 Volume Creme and pour some out onto the shell. Do your best to cover the entire surface evenly. This is easier said than done due to the shells odd shape. Just do the best you can.
 - Smooth out the extra creme that poured off your controller, onto the Saran Wrap, in a big enough surface to cover the controller.
 - Quickly flip the shell over and cover the entire shell with the Saran Wrap. Try not to leave open airways as you don't want the solution to dry. If you need an extra piece of Saran Wrap to completely cover the shell now is the time. When shell is completely wrapped flip it back over and place it into the container that will be holding the shell.
- i** I recommend an aluminum pan or glass dish of some kind as they will help reflect the UV light projected from your black light bulb.
- i** If you are cleaning a white controller the process is the same for the front shell.

Step 5 — Prep/Use Black Light Room



- i** This is my setup. It's only an example. Your black light room/setup doesn't need to be identical to mine in order for this to work. Just get your items to be restained as close to the UV light as possible.
- Here I've used a storage closet that seldom gets used as my black light room. I had to make some adjustments and shift some stuff around but my pan sits about a foot under the light. I can't explain the science behind why this works but there's a chemical reaction when the Salon Care 40 Creme sits under UV light. The end result is quite astounding.
 - Especially if your restoring a console or controller that is badly yellowed, it can restore its original color.
- !** DO NOT attempt this with dark plastics as it can warp the original color.

 - The reason for doing this is simple and is done for one of two reasons. Either you have a console/controller that's yellowed or you simply want to restore the original shine to the plastic. Even if your controller isn't discolored it still adds a "new" look and feel to it. I let mine sit for 24hrs before removing it from the room.
- i** Coincidentally, if the back sticker is important to you, this will also help discolor that back sticker if it's looking a little nasty from years of use/storage.
- i** If time is a factor and you want to finish this ASAP these first 5 steps needs to be done in order. The staining process is simple but timely. Make the most of your time by cleaning everything else after you begin your "baking period". Otherwise, your wasting time.
- i** This step is the ONLY reason that this is labeled to take 1-2 days. You can leave your shell under the UV black light as long/little as you want. Just know that the longer it's under the light the better the results.

Step 6 — Clean the Buttons, Rubber Pads, VMU Slot Holder and Front Shell



- i** If you're restoring a white controller then you are only cleaning the buttons, rubber pads and VMU slot holder.
- Grab your remaining parts to be cleaned and clean them using hot/warm water and antibacterial soap. Remember, the idea with all this is to remove the previous user(s) bacteria.
- i** A toothbrush or nail brush works really well at cleaning the hard to reach places that water pressure alone won't clean. Use them to clean the buttons if there's dirt in the A/X/B/Y indentation and the circular indentation on the front shell. If you're cleaning a white shell this should have been in Step 3.
- !** When cleaning the rubber pad that goes with your D-Pad be careful not to lose the little plastic piece in the center as it does separate from the rubber pad. Without it your D-Pad won't function properly if at all.
- When you've finished cleaning your remaining pieces set the rubber pads and VMU slot holder out of the way to air dry. You are done with these pieces until the reassembly process.
- !** I HIGHLY recommend using a strainer of some sort that fits your sink's drain for this step. If you lose these pieces down the drain you'll have two choices: 1) Go fishing for them in the pipes or 2) Purchase replacement buttons

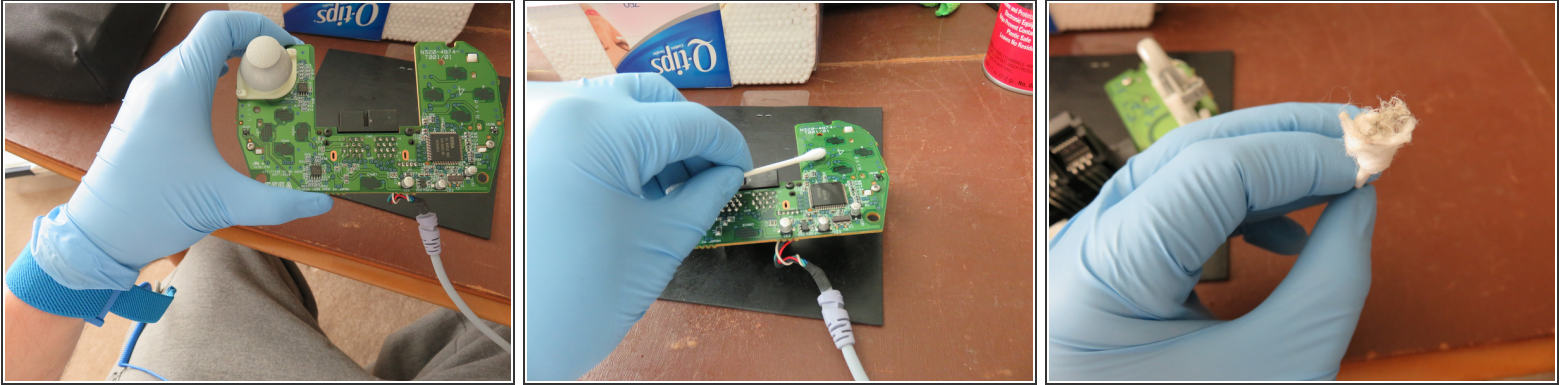
Step 7 — Polishing the Buttons and Front Shell



✦ If you're restoring a white shell controller you're only polishing the buttons in this step.

- Here's where your aluminum foil, microfiber clothes, Novus Plastic Polish #2 and dish soap comes into play. Following the instructions on the back of the bottle, apply and buff polish to the buttons/shell until you're satisfied with results. I personally repeat this process 3 times.
 - After the final coat is applied I use the dish soap to do a final clean of the shell and to remove any remaining polish. I use the dish soap because it's a little thicker, and lathers more which helps get the remaining polish off.
- ⓘ This process is tedious and slightly time consuming. I average 1-1.5hrs work time when polishing, buffing, rinsing and repeating 3 times and the final clean with dish soap. The end results are worth it but you can polish your stuff as much as you feel is necessary.

Step 8 — Cleaning the Controller Board



- Grab your electronics cleaner, Qtips and an ESD bracelet. This part is pretty self explanatory. Spray the cleaner on the board or on a Qtip and give it a gentle scrub. You probably won't yield much filth but it's better not to have it there in the first place.
 - The thumbstick remains on the board unless you unscrew the 2 screws holding it to the board. Clean it with a Qtip and rubbing alcohol and use a toothbrush or nail brush to clean the underside of the stick if you so desire. Don't forget to clean the triggers as a lot of dirt can build up on them.
 - Spray some of your electronics cleaner into the VMU slots and then spray an airgun into the slots. This will help clean and remove any dirt that may be in there.
- i** I personally use CRC electronics cleaner for my electronic cleaning needs. It works well, dries fast and costs less than \$5 on Amazon. You can use whatever electronics cleaning solution you prefer.

Step 9 — Controller Shell Cleanup



- Once you've hit your desired amount of time that you want your controller shell to remain under the UV black light it's time to clean it one last time. I use the dish soap here for the same reasons mentioned in Step 7.
 - Once the Salon Care 40 Volume Creme has been rinsed off the shell take a paper towel and dry the exterior.
- ✦ Be gentle when washing the sticker so it doesn't become damaged.
- ⚠ If the sticker is on the back shell pat, DON'T RUB, the sticker dry. This will prevent you from causing any sort of damage to the wet label. Although the water beads may be dried up the label itself will be damp and to much pressure while rubbing it can cause damage.

Step 10 — Apply Novus Polish #1



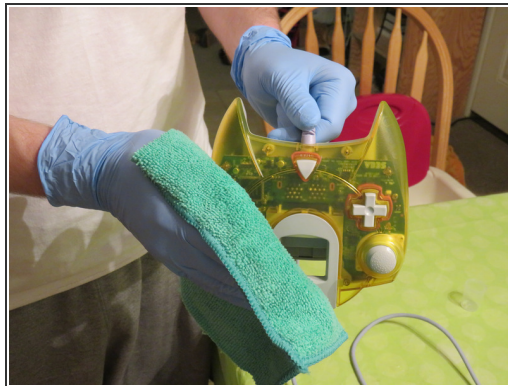
- Place your buttons, and front controller shell on a clean paper towel. Face the buttons upward so any residual polish drips onto the sides. Following the directions on the back of the bottle, spray the Novus Polish #1 on the top of the shell and buttons. Let them sit for a moment and wipe them dry with a clean microfiber or lint free cloth.
 - Use the same rag to wipe the inside of the shell to remove any dried up water marks that remain from the washing.
- ⚠ Take care around the screw posts as they can break off. If this happens simply reattach the broken piece with a small amount of super glue/crazy glue.
- ⓘ Don't totally rush the reassembly process. Make sure EVERYTHING is dry before proceeding. Place a small fan in front of all your wet/damp pieces for faster dry times or even better use an airgun and you can usually remove most of the moisture. Depending on the time of day I might just let the pieces sit over night to air dry.

Step 11 — Reassemble the Controller



- Go from this...
- To this :)

Step 12 — Apply Final Coat of Novus #1



i This step is optional.

- After your controller is reassembled take the cloth you used with the Novus Polish #1 and spray 1-2 pumps on the cloth. Give your entire controller a quick wipe down with the damp rag and set aside for a moment to dry.

Step 13 — Final Product



- Your Sega Dreamcast Controller should now look and feel like new again. I hope you enjoyed this guide and that it assists you on the road to restoring your retro devices. A lot of these techniques can be applied to several other retro systems and controllers. This is my process and I have successfully restored all my retro systems and controllers
- using the techniques shown in this guide. To include: N64 console & controllers, Dreamcast console & controllers, NES controller, NES & SNES game cartridges, Sega Game Gear console.

Step 14 — Sega - Taste the Rainbow!



- My Sega Dreamcast (North America) Refurbished Controller Collection and Pelican Gun.

Your Sega Dreamcast Controller(s) should now look and feel like new again. Enjoy and happy gaming!

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